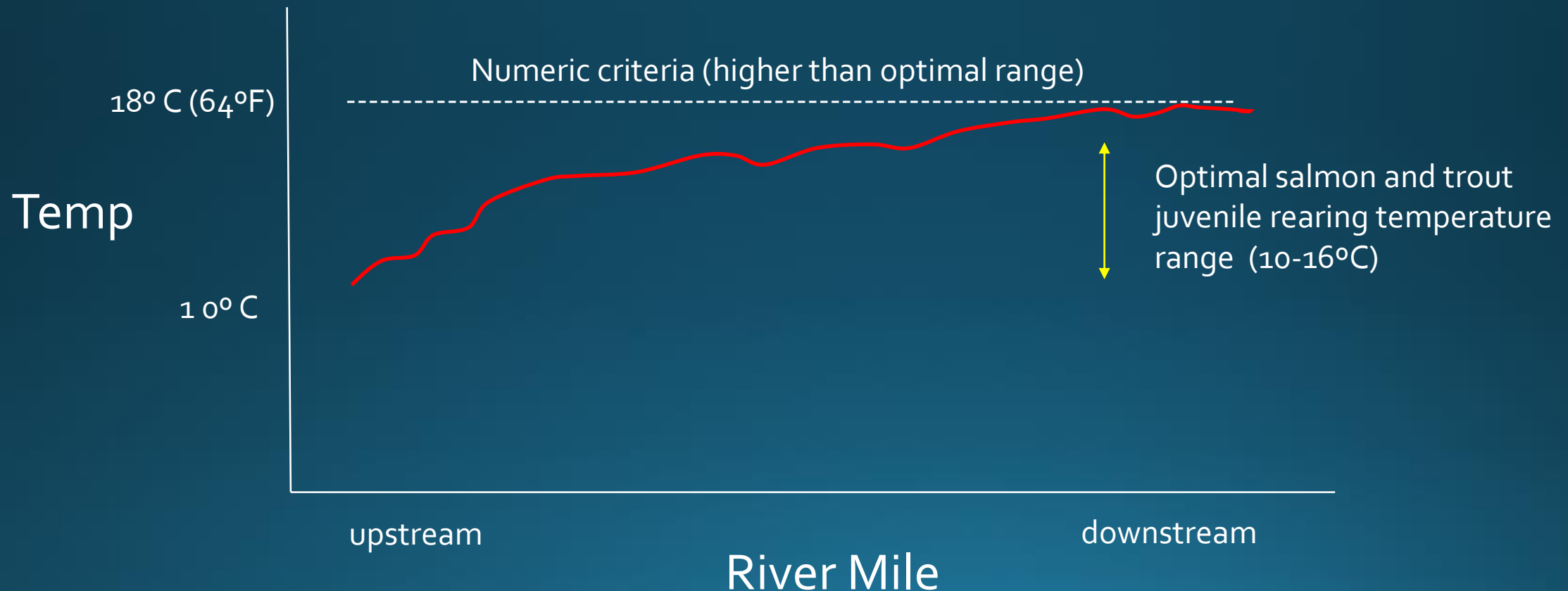


# EPA Pacific Northwest Temperature Guidance (2003)

- Joint effort with NMFS, FWS, States, & Tribes
- Technical team issued 6 peer-reviewed issue papers
- Policy team supported EPA in issuing two drafts for public comment
- Recommended temperature criteria to meet CWA & ESA
  - Numeric criteria to protect cold water salmonids
  - Additional water quality provision to maintain stream temperatures currently colder than numeric criteria (i.e., Protecting Cold Water criterion)
- Numeric criteria & PCW included in EPA's 2003 proposed rule & Oregon's 2003 temperature standard revision

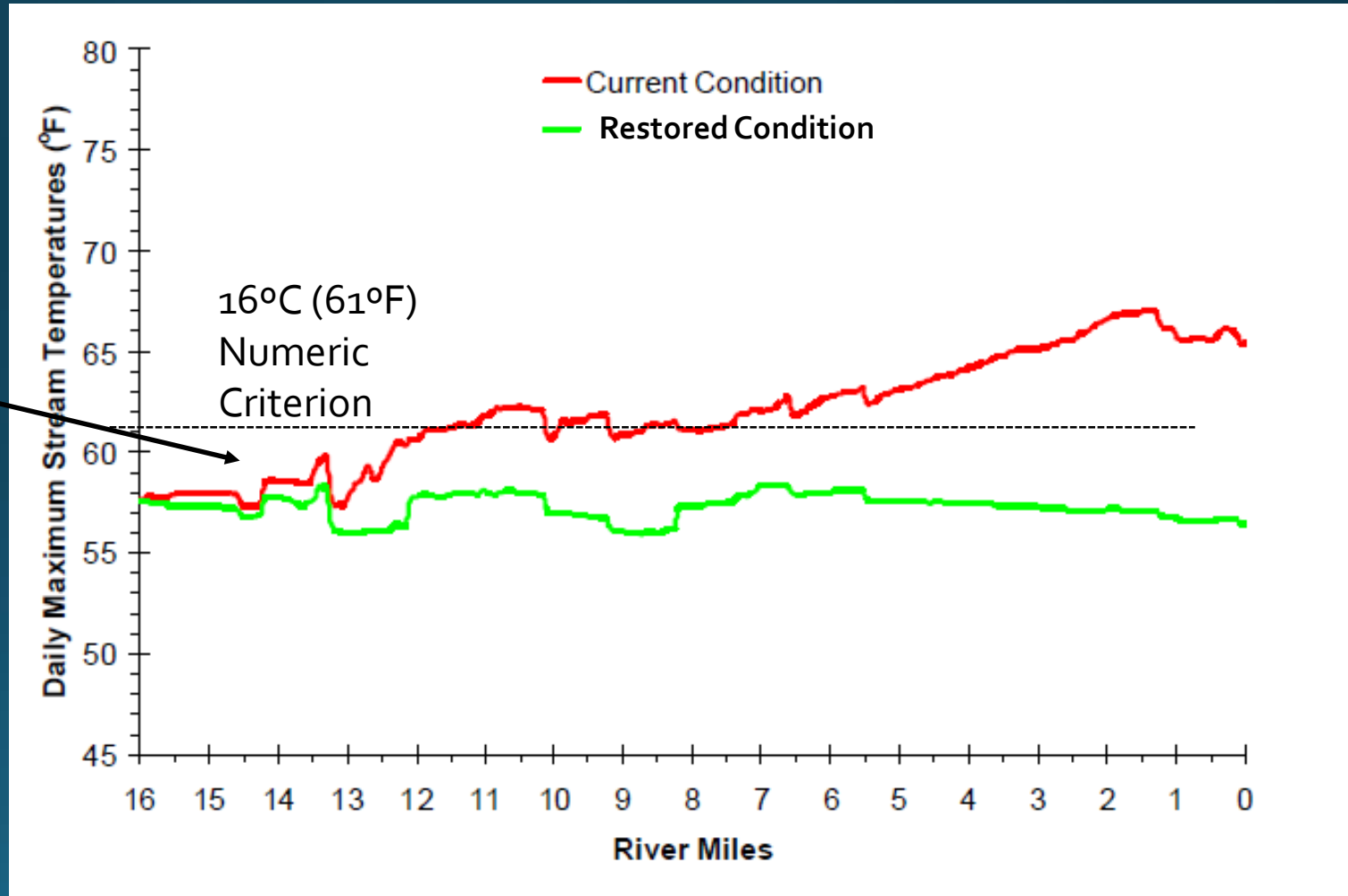
# PCW Rationale #1 – Supports protectiveness of numeric criteria



# PCW Rationale #2 – Prevents further warming of downstream reaches

Anthropogenic upstream warming likely contributes to downstream exceedance of numeric criteria

Source: North Coast TMDL, ODEQ, 2003 – Salmonberry River

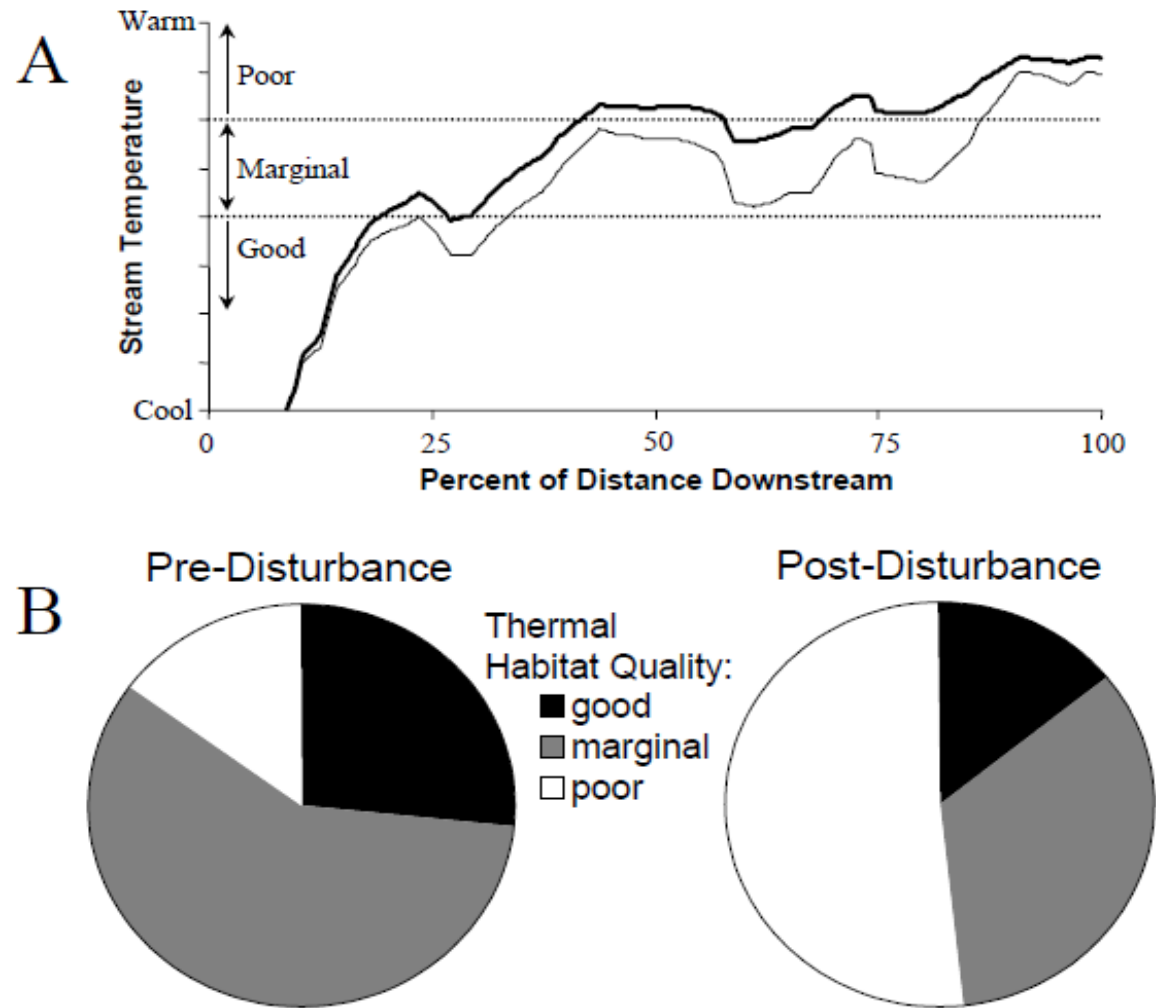


# PCW Rationale #3 – Protects last remaining high quality salmonid habitat

- Human activity has significantly warmed rivers and streams across the Pacific Northwest
- Summer rearing habitat truncated to higher elevations & summer migration in lower rivers is stressful/lethal
- Elevated stream temperature identified by NMFS/FWS as a limiting factor in the recovery of ESA-listed salmonids
- Protecting existing high quality habitat important for recovery
- Predicted Climate Change impacts (1-2°C increase) makes this even more important

# Reduced Salmon/Steelhead Thermal Habitat - Common Pattern In Pacific Northwest Streams

Source: EPA Issue Paper 3 – Spatial and Temporal Patterns of Stream Temperature (2001)



**Figure 6.** Quantitative depiction of results from a conceptual model of stream warming. (A) Thinner “pre-disturbance” line represents historic downstream temperature trend; thicker “post-disturbance” line represents the effects of a hypothetical change in stream structure that results in a cumulative 2.5% increase per stream km in the rate at which water approaches an assumed equilibrium temperature of 22.5°C. Zones demarcated by dashed lines show associated habitat quality of a hypothetical species of concern. (B) Resulting change in thermal quality of habitat after the hypothetical structural change (after Poole and Berman in press).